

Environment and Sustainability Program - Earth & Envr Resources Management (MEERM) 2017 - 2018 Assessment Plan

Currently status is: Report Accepted

I. ANNUAL REPORT FOR 2016 - 2017

Mission Statement

The mission of the Master of Earth and Environmental Resources Management (MEERM) degree within the School of the Earth, Ocean and Environment's Environment & Sustainability section is to educate, using a multi-disciplinary approach, students on the effective management, utilization and sustainability of the resources on and within the earth and its environment.

Goal 1.

The MEERM program's primary goal is to prepare students for careers as either 1) managers of the earth's resources and/or 2) environmental managers.

Curriculum

To provide the necessary interdisciplinary framework required of managers in these fields, the students are required to demonstrate knowledge of business and policy by taking a minimum of twelve hours of courses from selectives offered and examine the scientific and engineering principles that govern this complex field by completing at least twelve hours of courses from selectives offered in these fields.

Learning Outcome 1.

Students are required to demonstrate knowledge of business and policy by taking a minimum of twelve hours of courses from selectives offered and examine the scientific and engineering principles that govern this complex field by completing at least twelve hours of courses from selectives offered in these fields.

Measures and Criteria

Through the development of a portfolio (normally a collection of the student work), a student's progress toward the learning outcome will be monitored and reviewed specifically during interviews with the graduate director and/or graduate committee which occur during the student's first, second and final semesters. At least 80% of the students will have made acceptable progress towards their degree objectives at each interview. A student should take courses that are selected to meet his career goals and these goals and courses will be reviewed each semester and updated within the portfolio. An exit interview will include a discussion of how the student has achieved this integration as well as a discussion of their thesis and career placement opportunities in a field related to their goals. If less than 75% of students have achieved intergration of coursework, the degree requirements will be reviewed.

Methods

All Students will submit surveys to the Graduate Coordinator who will forward them to the Graduate Director and a MEERM graduate review committee during each semester that they are enrolled and the Graduate Director will review their courses, course performance, portfolio, and their career goals relative to when they entered the program. During the student's final semester, an exit interview will occur and the student will be queried regarding his thesis and the broader concepts of integration of elements of the program. The exit survey may be in person or completed electronically to evaluate the interdisciplinary elements of the student's thesis or research and this data will be analysed to determine the student's integration of the science and business/policy elements of the degree.

Results

During the AY 2016-2017, 3 students graduated from the MEERM program in May 2016 and all of 100%) completed the exit survey. The graduate director of the SEOE, based on timing issues, does not meet with the students individually for exit surveys however, electronic exit surveys have been developed to obtain this information. In addition, copies of abstracts and internship deliverables are available. Thesis abstracts or internship deliverables were reviewed for the graduating students and each (100%) exhibited evidence of integration.

Use of Results

With the integrated theses and internships, our students should be well prepared for careers or PhD programs. Based solely on the exit surveys, one was employed when the survey was completed in May, one has expressed interest in a PhD program, and the third is actively seeking employment. Given that these results have exceeded our goals, the program has not implemented any changes to the MEERM degree program in these areas.

Learning Outcome 2.

Students, upon completing the program, should be able to demonstrate that they can effectively integrate business and/or policy concepts with scientific information.

Measures and Criteria

Through the development of a portfolio (normally a collection of student work), a student's progress toward meeting his career goals will be reviewed each semester and updated within the portfolio. At least 80 % of students will have made successfull progress towards their degree at each interview stage. An exit interview will include a discussion of career placement opportunities in a field related to their goals. Placement in positions related to the program goals will be used to determine success; at least 75% of graduates will have positions in a related field or be in a PhD program within 2 years of graduation as a measure of success.

Methods

Students will complete an exit survey during their final semesters which will include questions relative to their career goals. During the student's final semester, the student will be queried regarding his potential or achieved placement upon graduation. The exit interview also determines whether a student has accepted a position of employment. If the student has not yet accepted such position, the program will attempt to stay in contact with the student until such time as the student has accepted a position. The program will maintain job placement data on its alumni to the extent possible to determine the types of careers and whether students entered careers in resource or environmental management. Within 2 years of graduation 75% of graduates will either be employed in a related field or pursuing a PhD.

Results

During the AY 2016-2017, 3 students graduated from the MEERM program in May 2016 and all (100%) completed the exit survey. The graduate director of the SEOE, based on timing issues, does not meet with the students individually for exit surveys however, electronic exit surveys have been developed to obtain this information. In addition, copies of abstracts and internship deliverables are available. Thesis abstracts or internship deliverables were reviewed for the graduating students and each (100%) exhibited evidence of integration.

Use of Results

Although we currently track students via electronic contacts after they graduate, we would like to develop a better method to consistently track employment data. Our graduate committee will attempt to better communicate with alumni to identify their employment status. The alumni office does not have information that we do not already possess. However, we are most pleased that this year most of our students are employed at graduation. Based on the survey, 33% of the students (1 of 3) may return to school for a PhD and we will attempt to stay in contact with these students during the next 2 years. Given that these results have exceeded our goals, the program has not implemented any changes to the MEERM degree program in these areas.

Goal 2.

Goal 2: The School of the Earth, Ocean and Environment expects students in the MEERM program: To possess a broad understanding of the interrelationships between earth resources, business, policy and environmental concepts.

Curriculum

Student must successfully complete a masters thesis or an internship deliverable which integrates these concepts; the success of which is evaluated by an interdisciplinary thesis or internship committee. All students must successfully complete two required seminars, however, students approved for the non-thesis option, must also within those seminars, successfully complete a writing which indicates their proficiency in this integration.

Learning Outcome 1.

Students enrolled in the thesis option must successfully defend a thesis proposal which demonstrates an understanding of the interactions between earth resources, business, policy and the environmental concepts.

Measures and Criteria

For students enrolled in the thesis option, the thesis proposal will be evaluated by an interdisciplinary faculty committee. The adviser and thesis committee will be informed by the student or the Graduate Director of the student's goals and the proposal must relate to the curriculum goals identified.

Methods

During the thesis proposal defense, each student, in addition to defending the specific proposal, will be required to address a question determined to evaluate the student's broad understanding of the interrelationships learned while in the program. Alternatively, the student may be required to address the question during the thesis defense rather than during the proposal defense. The interdisciplinary committee will evaluate the student's understanding and submit the result to the Graduate Director.

Results

Each thesis student (2 of 3 graduates) was asked to address various questions during their thesis proposal defense presentation. Since the thesis committees are required to be interdisciplinary, the questions, by virtue of the committee membership, are varied and are designed to evaluate the student's broad understanding of the various interrelationships between management and science. Polling of faculty on the committees and their completion of assessment forms during the presentation indicate a high level of understanding of this concept and the faculty completed.

Use of Results

We are pleased that our students can successfully defend an integrated thesis proposal or internship proposal. When the faculty committee approves the successful passing of a comprehensive exam, our students have had to demonstrate such understanding. Therefore, ultimately, all students must demonstrate such an understanding in order to graduate. Given that these results have exceeded our goals, the program has not implemented any changes to the MEERM degree program in these areas.

Learning Outcome 2.

All students must demonstrate that they comprehend and can apply the integrated concepts developed within the courses completed by successfully completing a writing which indicates their proficiency in this integration.

Measures and Criteria

Students in the program are required to enroll in two MEERM seminars and writings are required in each. Students in the internship option are also required to complete a deliverable; usually a written work product. To evaluate whether students possess the understanding required, papers will be randomly selected for review by a faculty committee. The review will evaluate whether students integrate business and policy concepts with scientific principles in their evaluation.

Methods

Each semester, several student internship papers or student group papers from a seminar course will be randomly selected and reviewed by MEERM committee to evaluate whether the student writings reflect a broad understanding of the concepts.

Results

During AY 2016-2017, 5 MEERM student reports from the MEERM seminar class - Earth

Resources Management, were selected and reviewed for their reflection of a broad understanding of the integrative concepts of business and science into the management issues they addressed; specifically related to the development of an irrigation scheme in an arid under-developed country to maximize sustainable water and energy measures and which incorporates an increased population as the area is developed and which accounts for additional social services becoming necessary. All writings successfully indicated proficiency and all seven substantially exceeded the proficiency required.

Use of Results

The results indicate that most students are completing the MEERM program with an ability to integrate various concepts related to environmental concerns. The mix of thesis and internship students were very successful and the course papers indicated success beyond the proficiency level. Such integration can be promoted not only in the classroom but by faculty interaction and will be promoted during orientation. Given that these results have exceeded our goals, the program has not implemented any changes to the MEERM degree program in these areas.

II. FUTURE ASSESSMENT PLAN FOR 2017 - 2018

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